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Title: ADMINISTRATION OF FREE RADICAL SCAVENGERS TO PREVENT
OR TREAT ISCHEMIA-REPERFUSION INJURIES

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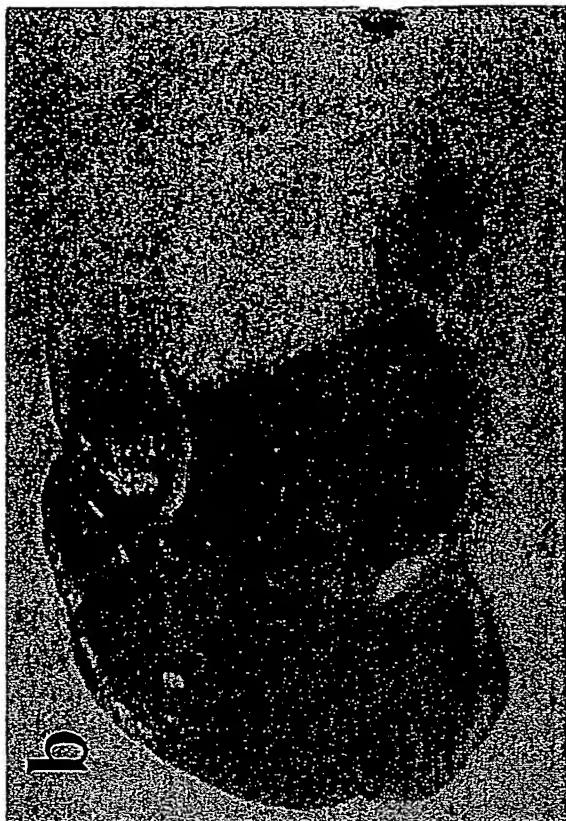


Figure 1b

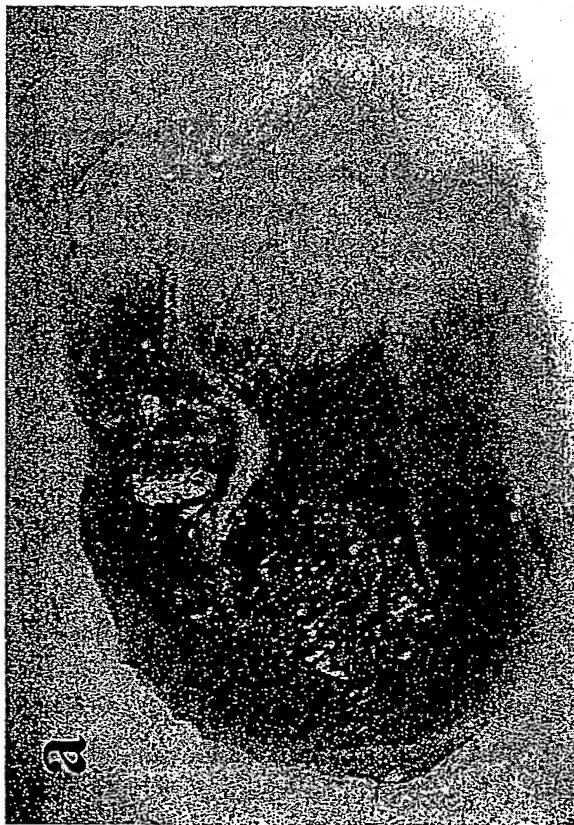


Figure 1a

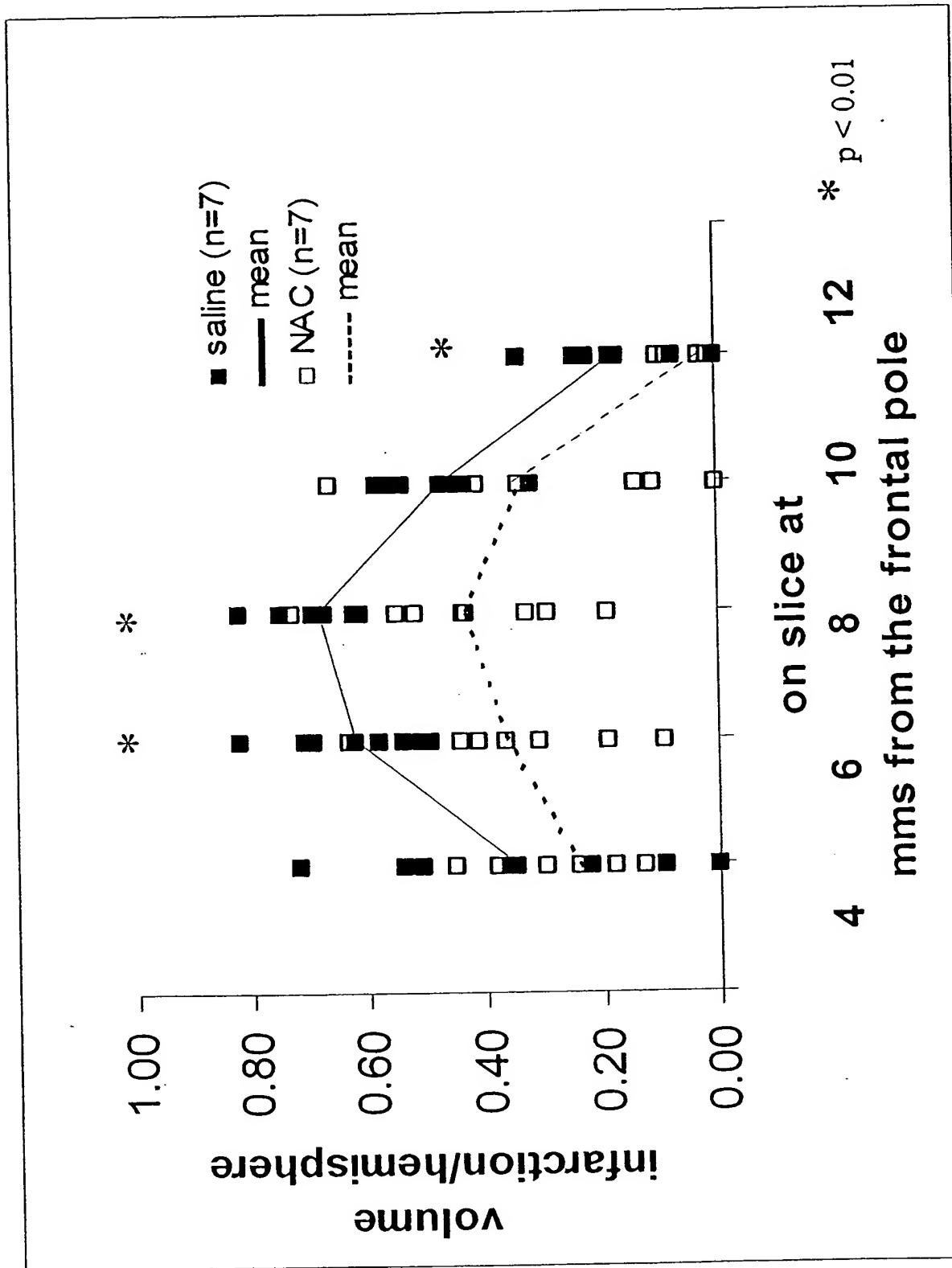


Figure 2. Effect of NAC (400mg/kg i.v.) pretreatment on infarction volume 24h after 60 min MCAO.
(p value calculated with two sided t test)

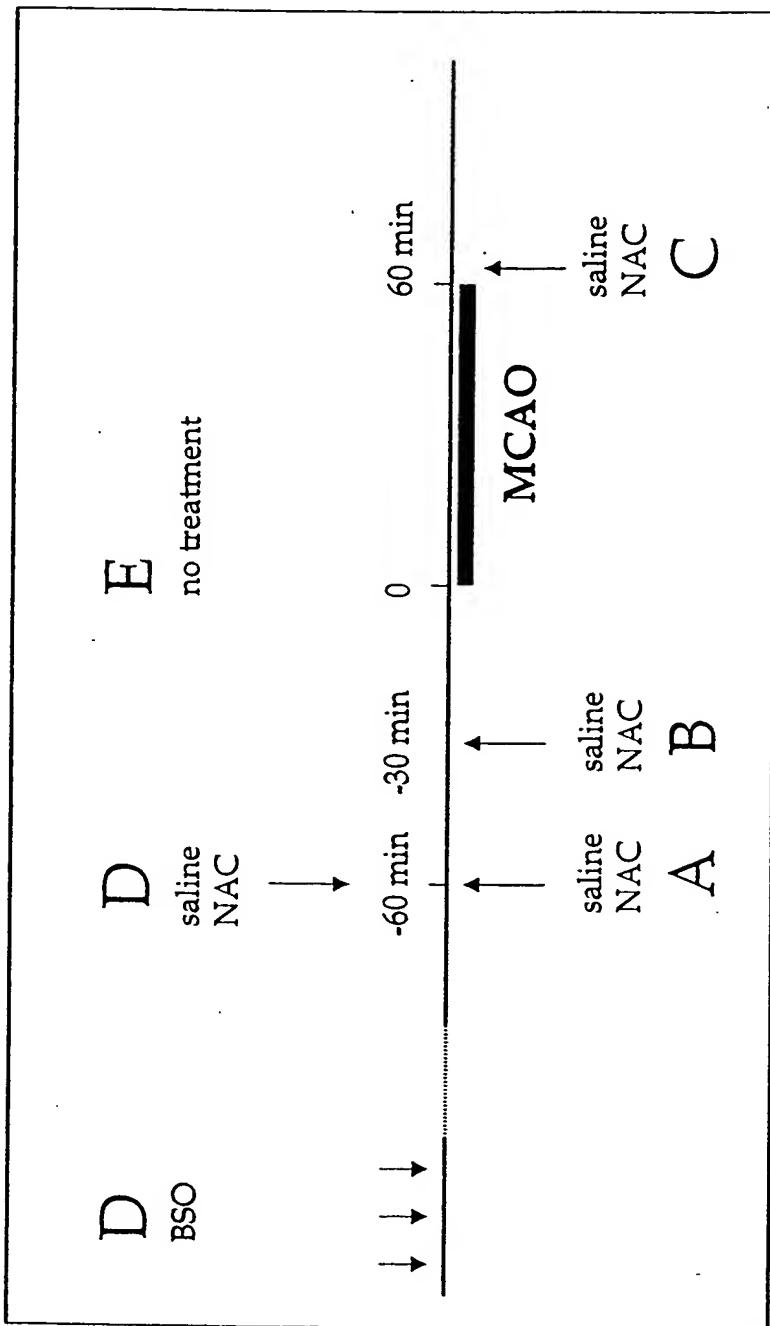


Figure 3.

Experimental series and groups. Timing of N-acetylcysteine (NAC), saline and L-buthionine-[S,R]-sulfoxamine (BSO) administration. In series A, Group 1 (NAC) and Group 2 (saline) animals were pretreated for 60 min prior to occlusion, and in series B, Group 3 (NAC) and Group 4 (saline) were pretreated for 30 min prior to occlusion. In series C animals were treated with NAC (Group 5) or saline (Group 6) 2 minutes after reperfusion. In series D the animals were treated with BSO twice daily for 3 days. Then animals were pretreated for 60 min with NAC (Group 7) or saline (Group 8) prior to occlusion, as in series A. Animals in series E (Group 9) underwent middle cerebral artery occlusion without any treatment.

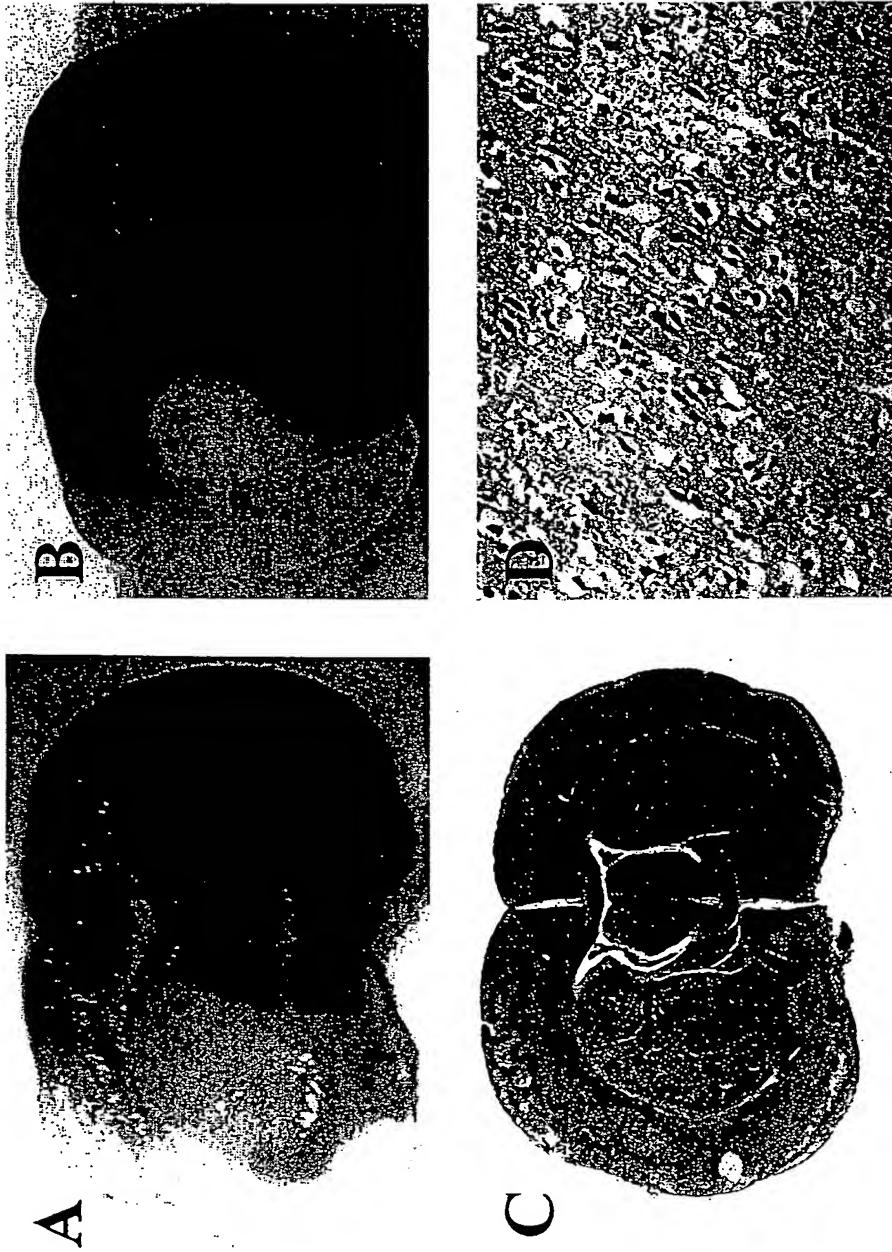


Figure 4. Triphenyltetrazolium chloride staining of coronal brain sections (2mm) 24 h after reperfusion following 1 h middle cerebral artery occlusion in representative saline (A) and N-acetylcysteine pretreated animals (B). NAC or saline was administered 60 min prior to occlusion. Unstained areas show infarction. C, D: H&E stained paraffin sections from, a representative stroke animal. Whole mount shows edema and vacuolation of the left hemisphere cortex and the majority of the striatum (C). High power (20X objective) of entorhinal cortex shows classic cytologic ischemic changes of 24 hour duration, neuronal pyknosis, loss of Nissl substance and edema. (D)

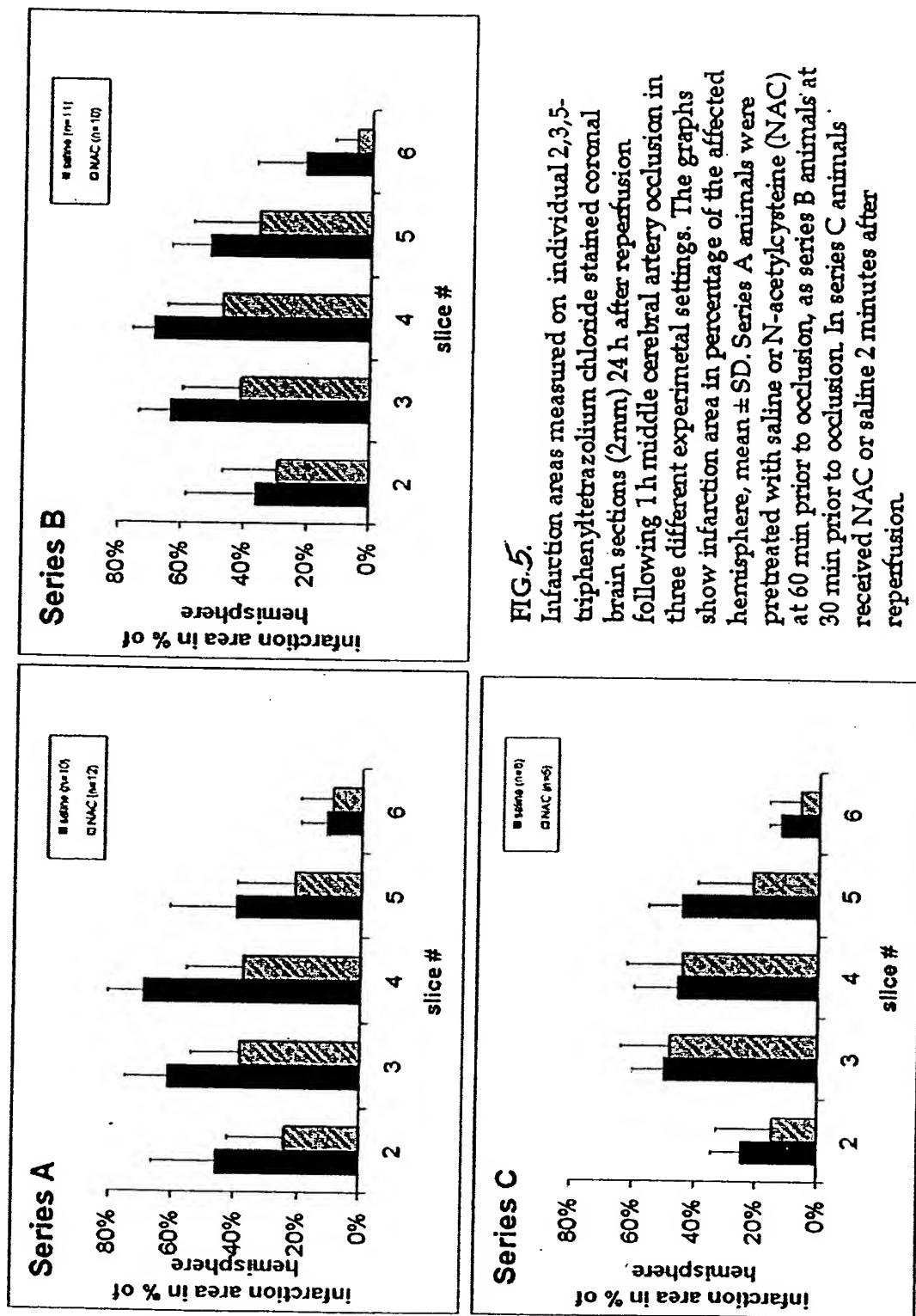


FIG. 5. Infarction areas measured on individual 2,3,5-triphenyltetrazolium chloride stained coronal brain sections (2mm) 24 h after reperfusion following 1 h middle cerebral artery occlusion in three different experimental settings. The graphs show infarction area in percentage of the affected hemisphere, mean \pm SD. Series A animals were pretreated with saline or N-acetylcysteine (NAC) at 60 min prior to occlusion, as series B animals at 30 min prior to occlusion. In series C animals received NAC or saline 2 minutes after reperfusion.

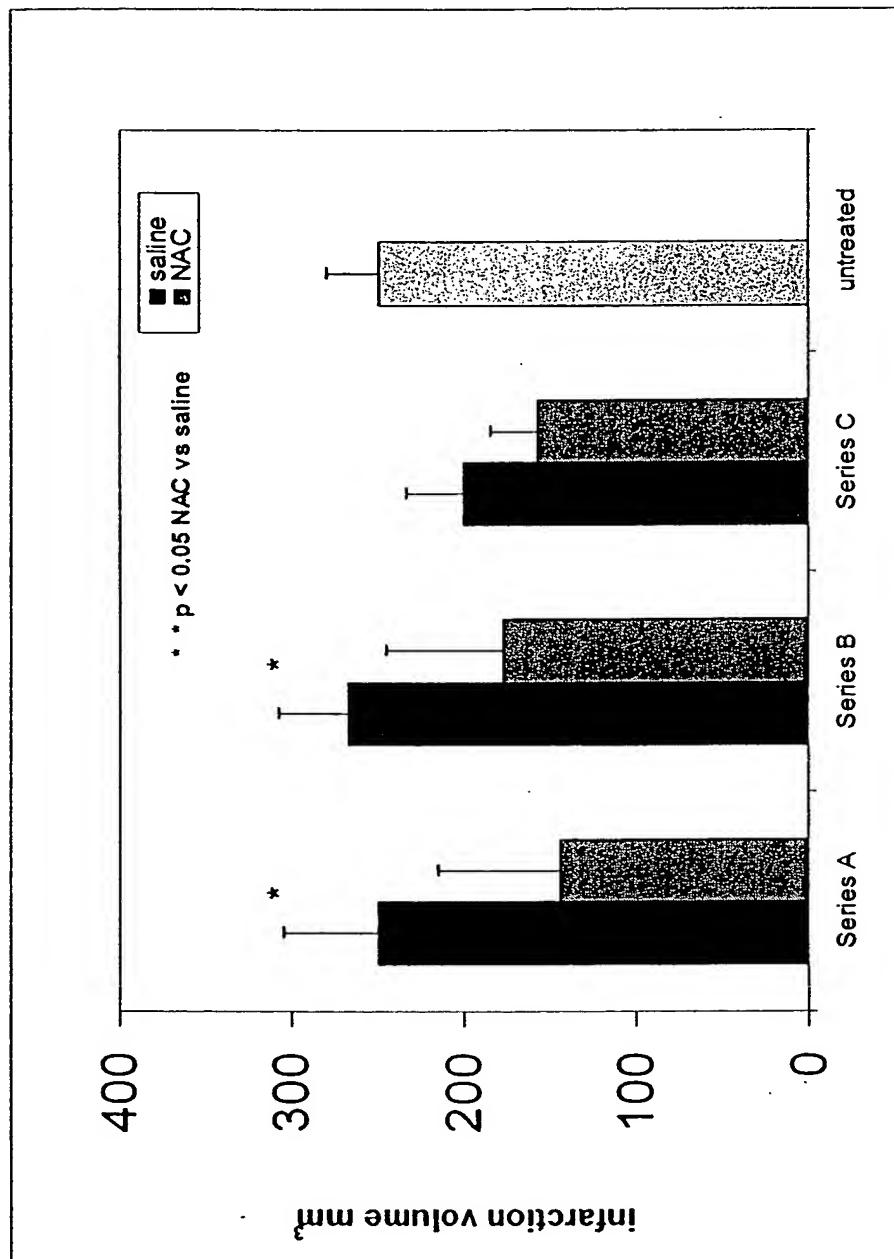


Figure 6.

Calculated total infarction volume in different experimental series measured on 2,3,5-triphenyltetrazolium chloride stained coronal brain sections (2mm) 24 h after reperfusion following 1 h middle cerebral artery occlusion. The graph shows mean \pm SD, in mm³. In series A animals were pretreated with saline or N-acetylcysteine (NAC) at 60 min prior to occlusion, as series B animals at 30 min prior to occlusion. In series C animals received NAC or saline 2 minutes after reperfusion. The last column displays infarction measured in untreated control stroke animals. Significant reduction of total infarction volume was observed in NAC versus saline treated animals in series A and B ($p<0.05$).